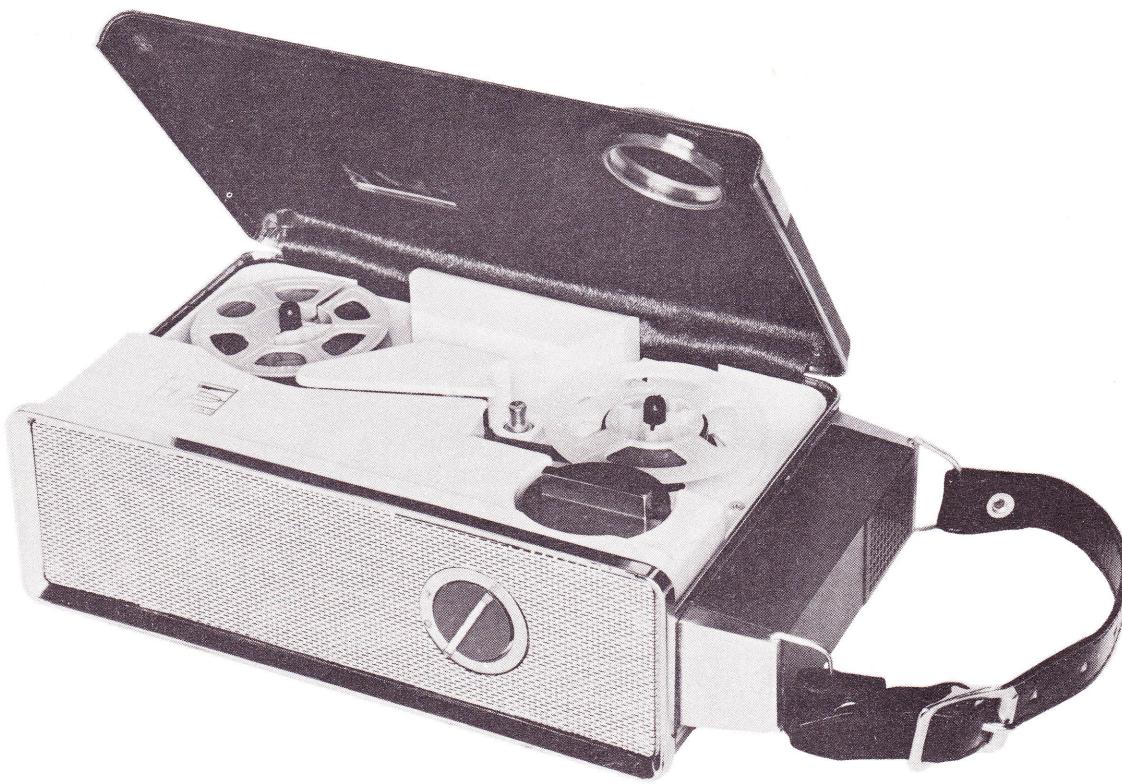


PHOTOFACT® Folder

with CIRCUITRACE*

TELECTRO
MODEL MR511TELECTRO
MODEL MR511TELECTRO
MODEL MR511

GENERAL INFORMATION

The Telectro Model MR511 is a battery-operated, two-speed, tape recorder. This unit is designed to record and play back two tracks of material on standard width tape. The tape speeds are 1 7/8 and 3 3/4 ips.

Recordings can be made from radio, phono, AM-FM tuner, or TV receiver, as well as a microphone. Using both tracks of a 3-inch reel of tape, the recording times are as follows:

Reel Size 3"	1 7/8 ips 1 hour	3 3/4 ips 1/2 hour
-----------------	---------------------	-----------------------

The power supply is self-contained, consisting of seven 1 1/2 volt penlite batteries.

Manufactured By:

Telectrosonic Corporation
35-18 37th Street,
Long Island City 1, New York

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of CQ497

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



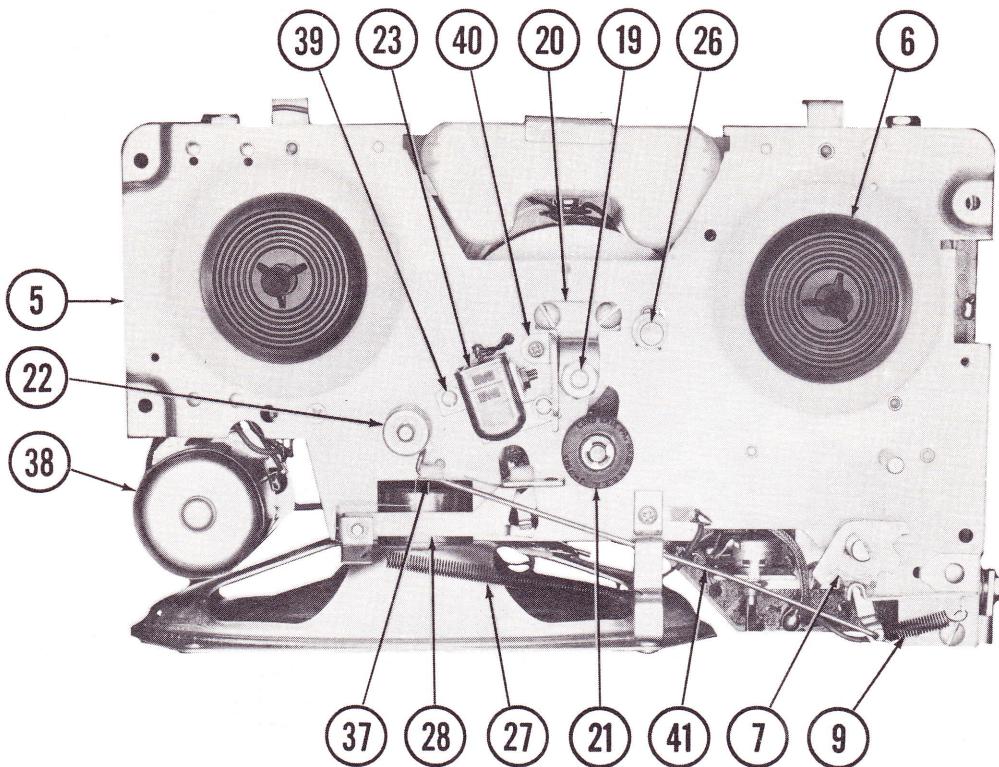


FIG.1 TOP VIEW OF MECHANISM

PREPARING FOR OPERATION

Open the lid and thread the tape (See "Threading the Tape"). When the Function control is turned to Rewind, Play, or Record position, power is automatically applied to the recorder.

FUNCTION OF CONTROLS

Function Control

The Function control is a four-position control. The Rewind position winds the tape from the take-up reel to the supply reel at a fast rate. The Off position releases the pressure roller and pressure pads and removes the power from the amplifier and motor. The Play position applies the pressure pads to the head, applies power to the amplifier and motor, and sets the tape in motion. Record position sets the recorder up for recording. The Record lock button must be depressed at the same time the Function control is rotated to the Record position.

Volume Control

The Volume control determines the volume of the recorder during playback and also the recording level when making a recording.

Speed Change Control

When recording or playing back a tape at 3 3/4 ips, pull the Speed Selector control to the "up" position. With the Speed Selector control in the "down" position, the tape travels at 1 7/8 ips.

NOTE: Change the Speed Selector control with the Function control in the Stop position only.

Threading the Tape

1. Place a reel of tape on the left (supply) spindle and an empty reel on the right (take-up) spindle.
2. Unwind about 8 inches of tape and thread it through the tape slot, making sure the shiny side of the tape faces the front of the recorder.
3. Insert the free end of the tape into one of the slots in the hub of the take-up reel. Turn the take-up reel counterclockwise to take up the slack in the tape.

To Record from a Microphone

Insert the microphone jack into the microphone input. Thread the tape as described under "Threading the Tape". Push the Record lock button and turn the Function Selector to the Record Position. Set the Volume control between 2 and 3. Hold the microphone

6 to 8 inches away from your mouth. If the recording is distorted, decrease the volume setting during recording. If the recording is weak, increase the volume setting.

To Rewind the Tape

To rewind the tape, move the Function selector to the Rewind position. To stop the tape, return the Function selector to the Off position.

To Play a Recording

1. Follow instructions under "Threading the Tape".
2. Move the Function selector to the Play position.
3. Adjust the Volume control to the desired listening level.
4. To stop the tape transport, move the Function selector to the Off position.

Erasing Recorded Material

Any recording on a tape is automatically erased before a new recording is put on the tape when the unit is in Record position. To erase a tape without putting a new recording on it, follow the normal recording procedure but leave the Volume control setting at minimum.

Dual Track Recording

These recorders are designed to record and play back on one-half the tape width at a time. After the recording is completed, and all the tape is wound on the take-up reel, remove the reels from the recorder. Turn the reels over and place full reel on the supply spindle. Properly thread the tape and proceed with recording. After the second track has been recorded, the first track can be played back in the same manner.

To Edit and Splice Tape

NOTE: Since one track cannot be edited and spliced without affecting the other track, recordings to be edited should be limited to one track only.

1. Tape may be edited by cutting out unwanted portions of the tape or by joining selections into another sequence. Announcements may be inserted between selections, etc. Unused sections can be spliced for re-use.
2. For best results, cut tape at a slight diagonal, join ends with splicing tape on the glossy side. Trim off any excess width.

DISASSEMBLY

To Remove the Recorder from the Case

1. Remove the Function control knob (1) and the Volume control knob.
2. Remove the rear escutcheon by pressing in on the front and lifting upward.

3. Remove 3 screws and lift the front escutcheon up off the recorder.
4. Lift the recorder from the case.
5. To reassemble, reverse the above procedure.

CLEANING

Pressure roller (21), Capstan shaft (11), Tape guide (41), and Record-Playback head (23) may accumulate tape oxide coating, worn off the tape as it passes

these parts. This accumulation will cause poor performance and should be removed with a soft lint-free cloth dipped in alcohol.

LUBRICATION

Under normal use, this recorder needs no lubrication. When unit is disassembled, clean and lubricate all bearing surfaces with a good grade of oil.

Lubricate the cams and levers with a non-hardening grease. Make sure no oil or grease gets on the rubber surface of the drive wheels.

ADJUSTMENT

Record-Playback Head

The Record-Playback head (23) has been properly aligned at the factory, and should not need adjustment unless it is replaced. The top edge of the Record-Playback head (23) must be set evenly with the top edge of the tape. Loosen nuts and adjust the height. Using an alignment tape, adjust head adjustment screw (40) until highest frequency response is obtained.

ment screw (19) until a slight resistance is felt; back off screw 1/4 turn and tighten nut.

NOTE: Care must be taken when turning flywheel adjusting acREW (19) to prevent damage to flywheel bearing.

Brake Adjustment

To adjust brake (35) loosen screws and adjust brake arm until proper brake action is obtained. Braking should be smooth and immediate.

Flywheel Bearing Adjustment

To adjust flywheel, loosen nut and adjust adjust-

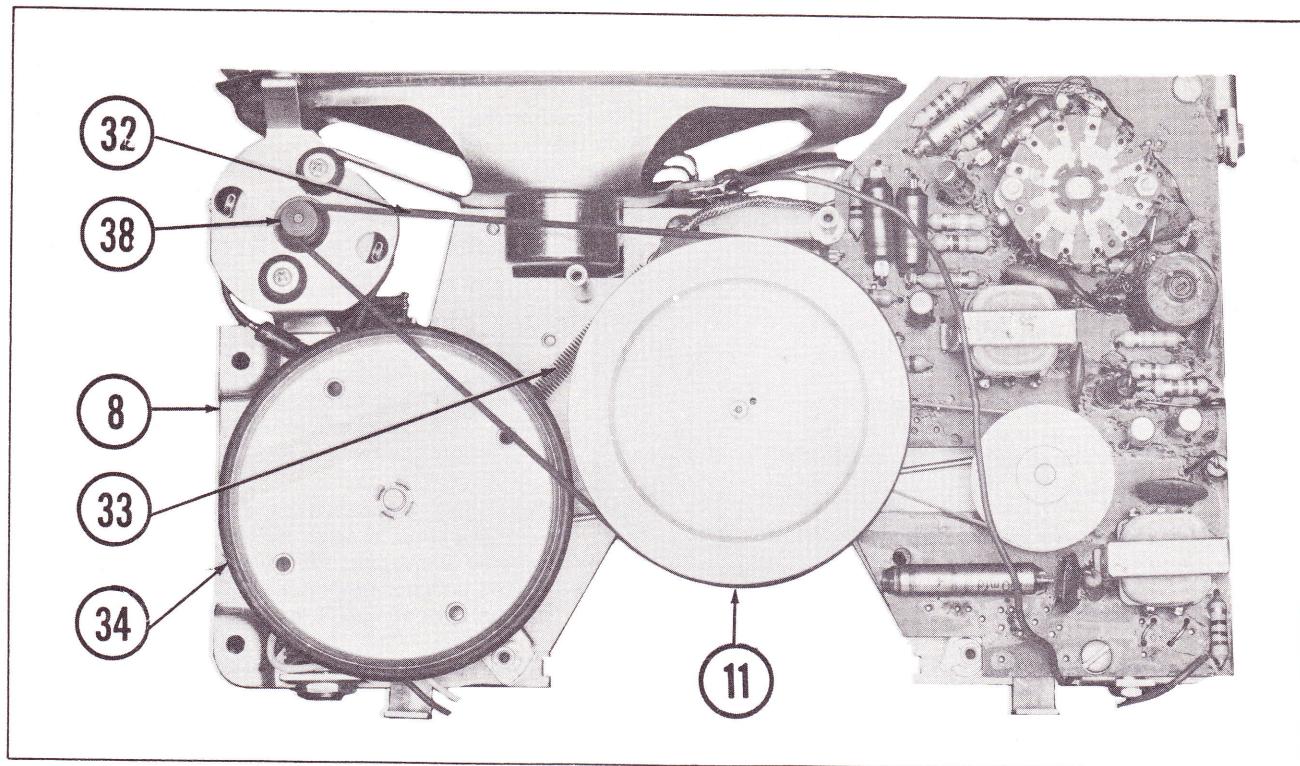


FIG.2 BOTTOM VIEW OF MECHANISM

TROUBLE CHART

NOTE: Before attempting any troubleshooting on this unit, check the batteries and re-

place them if they are weak. Weak batteries can cause many and varied troubles.

Symptom	Cause	Remedy
Recordings distorted.	1. Record-Playback head pressure pad (37) worn or dirty. 2. Record-Playback switch return spring (9) weak.	1. Replace pressure pad (37), or clean with soft cloth and alcohol. 2. Replace spring (9).
Wow.	1. Oil on pressure roller (21), capstan (11), or motor pulley. 2. Pressure roller (21) out of round. 3. Flywheel bearing (19) loose or damaged. 4. Pressure roller plate (17) out of line. 5. Take-up reel rubbing against speed selector. Play cam lever bent.	1. Clean these parts with a soft cloth and alcohol. 2. Replace pressure roller (21). 3. See "Flywheel Bearing Adjustment". Replace if necessary. 4. Replace pressure roller plate (17). 5. Bend Play cam lever until reel does not rub.
No Rewind.	1. Drive belt (32) loose or broken. 2. Take-up belt (12) loose or broken. 3. Oil or grease on driving surface.	1. Replace drive belt (32). 2. Replace take-up belt (12). 3. Clean all driving surfaces with a soft cloth and alcohol.
Reels do not turn in Record or Playback.	1. Defective motor. 2. Pressure roller plate spring (33) loose or broken. 3. Pressure pad bracket spring (27) loose or broken.	1. Replace motor (38). 2. Replace pressure roller plate spring (33). 3. Replace pressure pad bracket spring (27).
Does not Record or Erase.	1. Record interlock spring (3) bent.	1. Replace or straighten Record interlock spring (3).
Will not Erase.	1. Erase head link (41) loose or bent. 2. Erase head pressure pad (28) bracket bent.	1. Straighten or replace link. 2. Straighten or replace erase head pressure pad bracket (28).

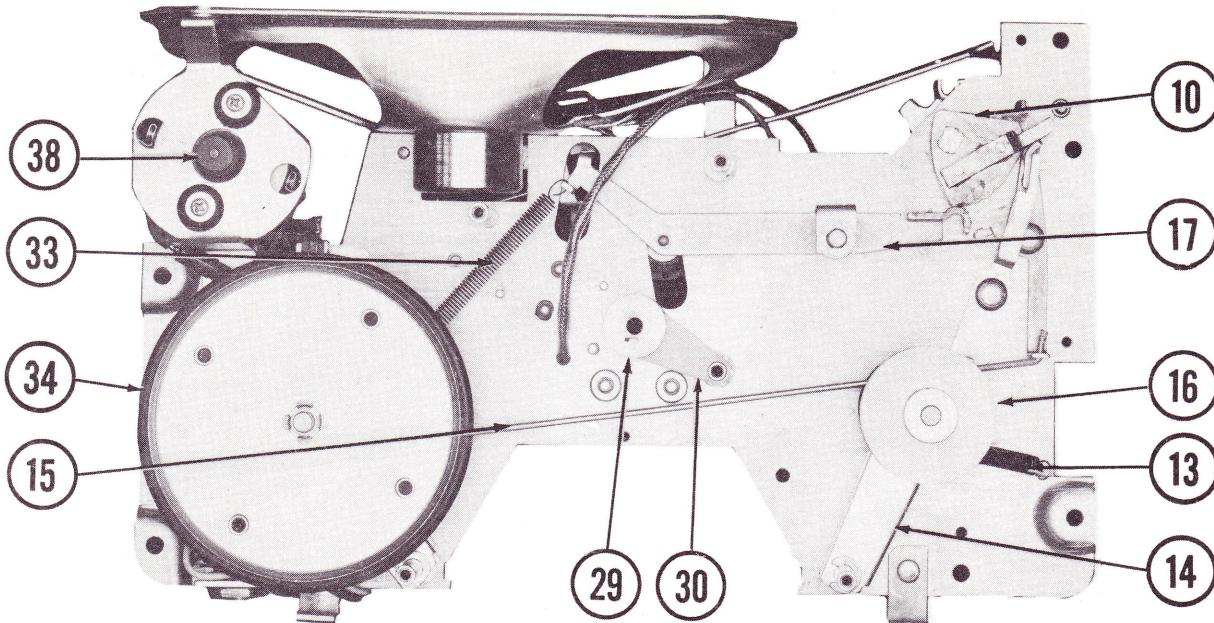


FIG.3 BOTTOM VIEW OF MECHANISM

TROUBLE CHART (CON'T.)

Symptom	Cause	Remedy
Speed selector knob will not remain in position.	1. Speed selector spring broken or missing.	1. Replace speed selector spring.
Transport noisy when operating at 1 7/8 ips.	1. Speed selector shaft ass'y. (30) hitting flywheel (11).	1. Raise speed selector shaft ass'y. (30) by unscrewing selector knob (26) and placing washers between shaft and knob.

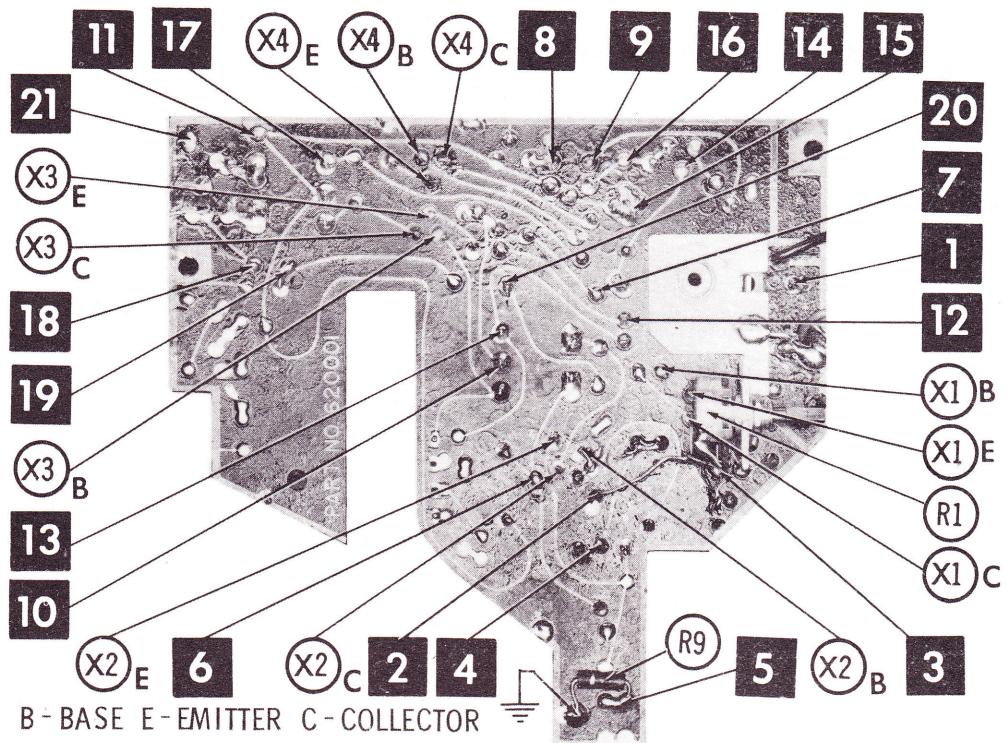
MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	TK-278	Function Control Knob	22	120011	Erase Head Ass'y.
2	480009	Record Lock Button	23	TH-661	Record-Playback Head
3	960014	Record Lock Spring	24	TB-2028	Record-Playback Head Mtg. Brkt.
4	100002	Rear Escutcheon	25	960001	Speaker Bracket and Rod Guide
5	100003	Front Escutcheon	26	480008	Speed Selector Knob
6	TS-3222	Reel Spindle	27	879004	Lever-Pressure Pad Spring
7	TC-2362	Star Indexing Cam	28	120006	Pressure Pad Bracket Ass'y.
8	120003	Motor Board Ass'y.	29	TA-1700	Capstan and Pin Sleeve Ass'y.
9	879002	Record Switch Return Spring	30	120013	Speed Selector Shaft Ass'y.
10	120002	Function Cam Shaft Ass'y.	31	TG-512	Grommet
11	TA-1593	Flywheel Ass'y.	32*	TO-243 *	*Drive Belt
12 *	290001 *	* Take-up Belt	33	879004	Pressure Roller Plate Spring
13	879003	Wind Arm Spring	34	120012	Rewind Wheel Ass'y.
14	960008	Wind Arm	35	960007	Brake Arm
15	360001	Rewind Link	36	TP-1423	Brake Arm Pad
16	TW-487	Take-up Wheel	37	TP-863	Pressure Pad
17	120005	Pressure Roller Plate Ass'y.	38	120009	Motor Ass'y.
18	120007	Bottom Support Plate Ass'y.	39		Screw
19	TB-2576	Adjustable Jewel Bearing	40	TC-515	Tape Guide
20	TH-645-2	Bearing Housing	41	TL-447	Erase Head Link
21*	TR-2136*	*Pressure Roller			

* Drive Belt-WALSCO Part No. 41-094

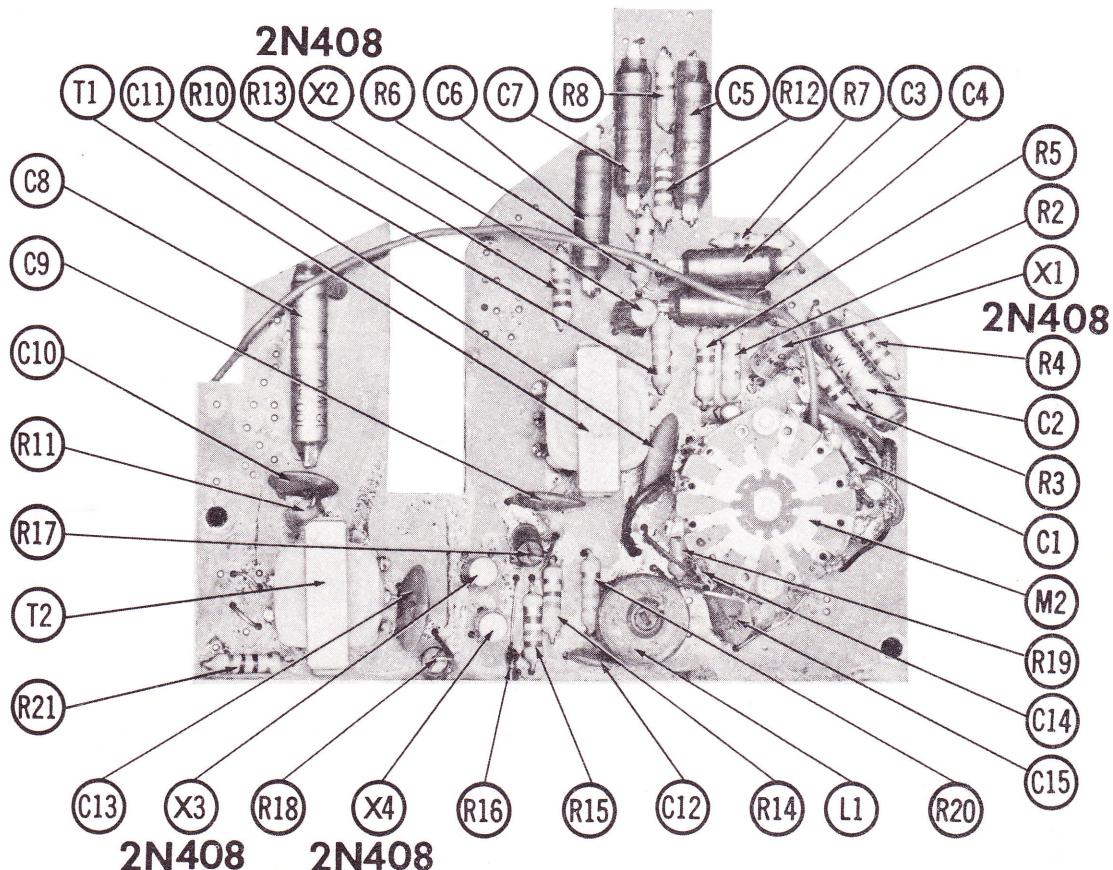
* Pressure Roller -WALSCO Part No. 41-104

* Take-up Belt - WALSCO Part No. 41-100

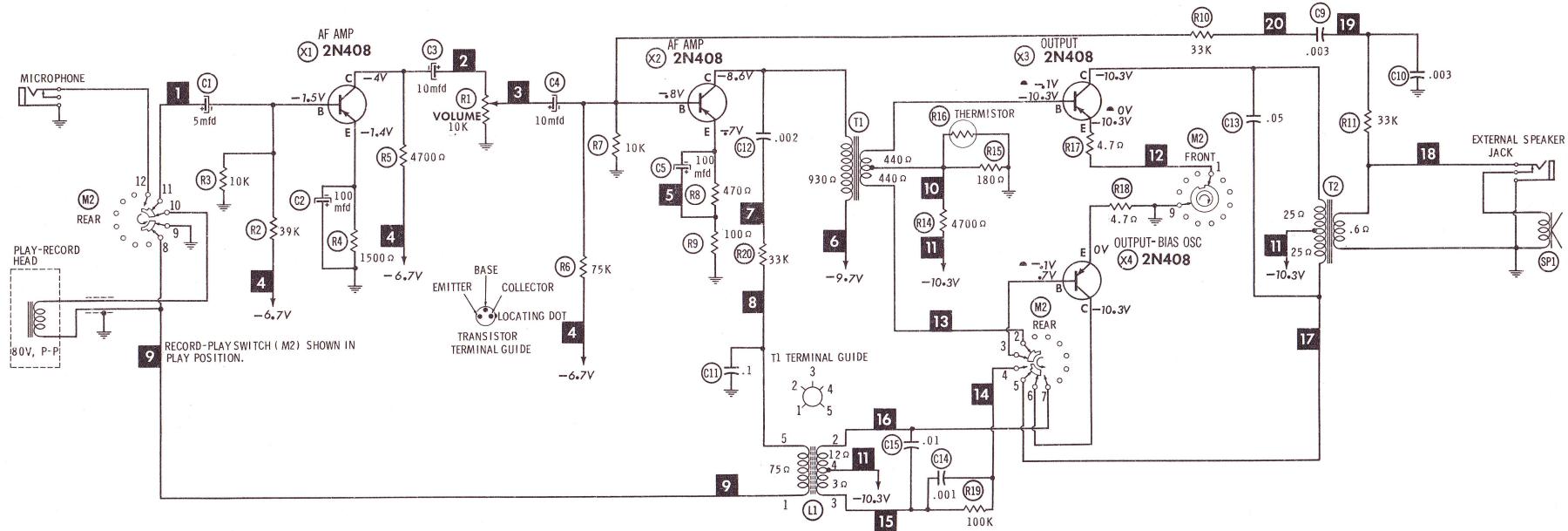


A Howard W. Sams CIRCUITTRACE Photo

PRINTED BOARD



PRINTED BOARD-TOP VIEW



NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

▲ MEASURED IN "RECORD" POSITION

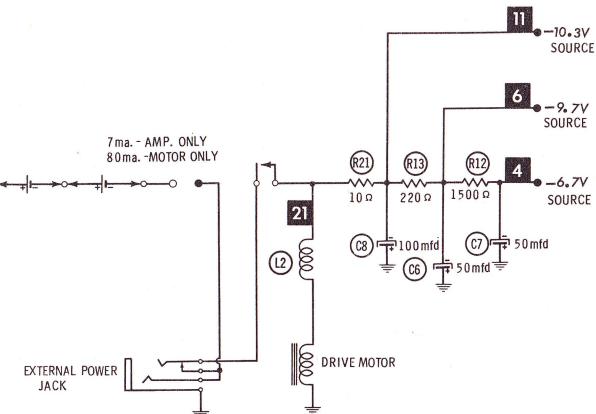
RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
with CIRCUITTRACE[®]

© Howard W. Sams & Co., Inc. 1962

TELECTRO MODEL MR511



ELECT. PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2N408	AF Amplifier	2N408	2N633	PNP
X2	2N408	AF Amplifier	2N408	2N633	PNP
X3	2N408	Output	2N408	2N633	PNP
X4	2N408	Output-Bias Osc.	2N408	2N633	PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	TELELECTRO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	5	12	TC-2434	PTT51	NLW5-15	MT1-3	TT12X5	MLV5-12	TE-1127
C2	100	3	TC-2435	PTT13	NLW100-3	MT1-18	TT6X100	MLV100-3	TE-1059.5
C3	10	12	TC-2436	PTT53	NLW10-15	MT1-5	TT12X10	MLV10-12	TE-1128
C4	10	12	TC-2436	PTT53	NLW10-15	MT1-5	TT12X10	MLV10-12	TE-1128
C5	100	3	TC-2438	PTT13	NLW100-3	MT1-18	TT6X100	MLV100-3	TE-1059.5
C6	50	12	TC-2437	PTT59	NLW50-15	MT1-16	TT15X50	MLV50-12	TE-1133
C7	50	12	TC-2437	PTT59	NLW50-15	MT1-16	TT15X50	MLV50-12	TE-1133
C8	100	12	TC-2439	PTT60	NLW100-12	MT1-19	TT15X100	MLV100-12	TE-1135

FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA				
	AEROVOX PART No.	CENTRALAB PART No.		CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C9	.003			DI-3000	DD-302	BYA10D3	CCD-302	GP230
C10	.003			DI-3000	DD-302	BYA10D3	CCD-302	GP230
C11	.1 50V			DIA-104	DIA-104	H-05P1	TA-010	10TS-D30
C12	.002			BPD-002	DD-202	BYA10D2	CCD-202	B-220
C13	.05			BPD-005	DD-503	H-05S5	TA-150	10TS-D30
C14	.001			BPD-001	DD-102	BYA10DL	CCD-102	TG-P10
C15	.01			BPD-01	DD-103	BYA10SL	CCD-103	5HK-D20

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA			
			TELELECTRO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS - IRC PART No.
R1	Volume	10K	TP-1483	JP2-103	4410K-W	MLC14A

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			REPLACEMENT DATA				
		IRC PART No.	WORKMAN TV PART No.	REMARKS		ITEM No.	RATING	IRC PART No.	WORKMAN TV PART No.
R2	39K				R12	1500Ω			
R3	10K				R13	220Ω			
R4	1500Ω				R14	4700Ω			
R5	4700Ω				R15	18Ω			
R6	75K				R16	Thermistor			
R7	10K				R17	4.7Ω			
R8	470Ω				R18	4.7Ω			
R9	100Ω				R19	100K			
R10	33K				R20	33K			
R11	33K				R21	10Ω			

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		TELELECTRO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Osc.	TT-917		BC-562	4604	RTC-8516	T856
L2	RF Choke(1.4uh)						

TRANSFORMER (DRIVER)

ITEM No.	URNS RATIO	REPLACEMENT DATA					NOTES
		TELELECTRO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1, 8	1	TT-927				

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	TELELECTRO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	1000Ω CT	3-4Ω	TT-925					

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	TELELECTRO PART No.	QUAM PART No.	
SPI	2 1/4" x 6 1/4"	PM	3-4Ω	TS-3503		

BATTERIES

ITEM No.	VOLTAGE	TELELECTRO PART No.	REPLACEMENT DATA				NOTES	
			BURGESS	EVEREADY	MALLORY	"A"	"B"	
M1	1 1/2 V			930		1015	M-15R	7 Required

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	48008-26	
Knob	TK-279	Speed Volume Function Part of Function Knob
Knob	TK-278-1	
Button	480009-2	
Handle	TH-644	
Cabinet	I220010	Leather

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
	8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (6 Ft. Length)
	1725-K (7 1/2 Ft. Length)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor - Twisted)